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BRAINWARE UNIVERSITY

Term End Examination 2023

Programme – B.Sc.(BT)-Hons-2018/B.Sc.(BT)-Hons-2019/B.Sc.(BT)-Hons-2020/B.Sc.(BT)-Hons-2021

Course Name – Mammalian Physiology

Course Code - BBT301/BBTC301

(Semester III)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Viscocity measurement: Normal viscosity of blood is .....times that of water

a) 1-2 times b) 2-3 times
c) 4 to 5 times d) 5-6 times

(ii) Estimate the ration of energy production in aerobic and anaerobic respiration from one free glucose to pyruvic acid

a) 0.04236111111111111 b) 0.04305555555555556
c) 0.08402777777777777 d) 0.04444444444444445

(iii) Insulin is stimulated by

a) Gastric Inhibitory peptide b) Secretin
c) Gastrin d) Choilecystokinin

(iv) Which of the following hydrolytic enzymes act in low pH?

a) Peroxidases b) Hydrolases
c) Amylases d) Proteases

(v) Find out the appropriate relationship

a) Omega cell of pancreas- growth hormone b) Beta cells of Pancreas- somatostatin
c) Delta cells of Pancreas-insulin d) Alpha cells of Pancvreas- glucagon

(vi) Gaseous exchange is the component of

a) Respiratory system b) Aerobic Respiration
c) Anerobic Respiration d) cardiovascular system

(vii) Carbon dioxide binds to haemoglobin in a reversible manner to form...

a) Oxy haemoglobin b) Carboxy haemoglobin
c) Carbamino haemoglobin d) methanoglobin

(viii) Antibody is a protein that is secreted from

a) T lymphocyte b) B-lymphocyte

c) eosiniphil
d) Neutrophil

(ix) Iron moiety of Haemoglobin binds to

a) Molecular Oxygen
b) Ionic Oxygen
c) superoxide
d) Both molecular Oxygen and Ionic Oxygen

(x) Haemolysis may occur when a blood cell is placed in a

a) Homotopic solution
b) Isotonic solution
c) Hypotonic solution
d) Hypertonic solution

(xi) Formation of oxyhaemoglobin is a/an _____

a) oxygenation
b) oxidation
c) reduction
d) deoxygenation

(xii) Chloride shift occurs in response to _____

a) H+
b) K+
c) HCO3-
d) Na+

(xiii) In the clotting mechanism pathway, thrombin activates factors _____

a) XI VIII V
b) XI IX X
c) VIII X V
d) IX VIII X

(xiv) How many layers of glomerular epithelium are involved in the filtration of blood?

a) 1
b) 2
c) 3
d) 4

(xv) How many moles of ATP are required in the formation of urea?

a) 1
b) 2
c) 3
d) 4

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Illustrated the Double circulation procedure (3)
3. Evaluate the role of micelles for absorption of lipids (3)
4. Illustrate the relation between oxygen-haemoglobin saturation curve with pH and temperature. (3)
5. Make a diagrammatic representation of different factor involved in blood clotting mechanism (3)
6. Describe the procedure of protein absorption through intestinal villi (3)

OR

Describe the function of Goblet cell in reference to Digestive System (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Discuss the origin and function of FSH, Testosterone, GH, ACTH, Progesterone (5)
8. Steroid Hormone act as an Transcription factor: Judge the comments (5)
9. Describe the hormonal feedback mechanism with suitable example (5)
10. Explain the process of Lipid Digestion and absorption (5)
11. Structurally differentiate between Skeletal muscle, Smooth Muscle and Cardiac muscle (5)
12. Compare the ECG graph (PQRST) with different phase of cardiac cycle (5)

OR

Illustrated the process of muscle contraction. (5)

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